

$$x-1 \overline{) 4x^3 + 0x^2 - 3x - 1}$$

$$4x^3 - 3x - 1 = (x-1)(4x^2 + 4x + 1)$$

$$(2x+1)(2x+1)$$

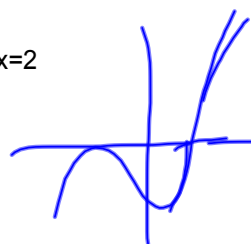
$$\frac{2x+1}{2} = \frac{1}{2}$$

$$x = -\frac{1}{2}, +1$$

$$\begin{array}{r} +1 \overline{) 4 \quad 0 \quad -3} \\ \underline{4 \quad 4 \quad 1} \end{array}$$

$$\begin{array}{r} 4 \quad 4 \quad 1 \quad \boxed{0} \\ \text{remainder} \end{array}$$

$$4x^3 - 3x - 1 = f(x)$$

equation line for tangent at $x=2$ 

$$f'(x) = 12x^2 - 3$$

$$f'(2) = 3(4x^2 - 1)$$

$$15x^3 = 45$$

$$f(2) = 45$$

$$y = 45x + b$$

$$25 = 45x + b$$

$$b =$$

$$25 = 90 + b$$

$$-90 = -65$$

$$-65 = b$$

$$g(x) = 45x - 65$$

$$4x^3 - 3x - 1$$

write an equation for this function reflected across the y-axis

$$y = 4(-x)^3 - 3(-x) - 1$$

$$y = -4x^3 + 3x - 1$$

